



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

Se

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,667	04/13/2004	George Alexanian	6944.13	7623

25265 7590 04/11/2005  
MARK D MILLER  
KIMBLE, MACMICHAEL & UPTON  
5260 NORTH PALM AVENUE  
SUITE 221  
FRESNO, CA 93704

EXAMINER
----------

RODRIGUEZ, PAUL L

ART UNIT	PAPER NUMBER
----------	--------------

2125

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/824,667	<b>Applicant(s)</b> ALEXANIAN, GEORGE	
	<b>Examiner</b> Paul L Rodriguez	<b>Art Unit</b> 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-13, 19-21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 4-7, 14-18 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/13/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

1. Claims 1-25 are presented for examination.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.83(a) because the features disclosed in the description and claims should be illustrated in the drawings in a form of graphical drawing symbol or a labeled representation. Element numbers drawn to empty boxes does not provide adequate labeling for figure 2.

3. The drawings are objected to because figures 4 and 5 are described as flow charts, Examiner does not consider figures 4 and 5 to be flow charts, they are simply numbered text lines. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

Art Unit: 2125

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

4. Claims 6, 14, 16 and 22 are objected to because of the following informalities:

Claim 6 lines 2-3 refers to “said temperature”, previously “an expected maximum temperature” in claim 6 line 2, “periodic temperature budget factor”, claim 5 line 2 and “standard temperature budget factor”, claim 5 lines 1-2. Could create an antecedent problem in the claims.

Claim 14 line 16 recites “said particular period”, previously the claim recited “a previous predetermined period”, reference to the same limitations should remain consistent to avoid any possible confusion or antecedent problems.

Claim 16 lines 2-3 refers to “said modified irrigation schedule”, claim 16 depends from claim 14 which states “modifying said preliminary irrigation schedule”, however there was no previous statement directed to “a modified irrigation schedule”. Could create confusion or antecedent problem.

Claim 22 line 5 refers to “said temperature sensor”, previously “at least one temperature sensor”, would be better as “said at least one temperature sensor”.

Claim 22 line 7 refers to “said particular period”, previously “a previous predetermined period” and “periodic temperature budget factor”, reference to the same limitations should remain consistent to avoid any possible confusion or antecedent problems.

Claim 24 line 2 refers to “said environmental sensor” previously “at least one environmental sensor”, would be better as “said at least one environmental sensor”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 8 recites the limitation "the expected high temperature" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 10 recites the limitation "said current temperature budget factor" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

9. The examiner has provided a number of examples of the claim deficiencies in the above, however, the list of deficiencies may not be all inclusive. Applicant should refer to these as examples of deficiencies and should make all the necessary corrections to eliminate the claim objections.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2125

11. Claims 1, 11, 12, 19, 20 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hopkins et al (U.S. Pat 5,097,861). The claimed invention reads on Hopkins et al as follows:

Hopkins et al discloses (claim 1) a method for automatically operating an irrigation controller (col. 1 lines 5-9, 30-33, col. 2 lines 15-20) comprising the steps of providing said controller with a preliminary irrigation schedule for a geographic location (col. 1 lines 30-39, col. 2 lines 15-28), computing a water budget ratio by comparing current local geo-environmental data with stored local geo-environmental data (col. 2 lines 15-55), and modifying said preliminary irrigation schedule based upon said ratio (col. 2 lines 56-63, col. 5 lines 59-66, claim 15), (claim 11) comprising the additional step of programming said controller to water an irrigation area according to said modified irrigation schedule only upon the occurrence of a predefined environmental event (col. 2 lines 45-56), (claim 12) wherein said predefined environmental event comprises the lack of rainfall within a predefined period of time (col. 5 lines 34-66, col. 7 line 66 – col. 8 line 60), (claim 19) an apparatus for automatically adjusting irrigation watering schedules (figure 2), comprising an input device (col. 4 lines 16-32), a microprocessor (reference number 70), at least one data storage device having instructions for computing a water budget ratio using current local geo-environmental data and stored local geo-environmental data (reference numbers 72-74, 76), at least one temperature sensor (abstract, claim 2), a power source (reference number 100), and at least one irrigation water output cutoff switch (col. 7 lines 36-53), (claim 20) wherein said input device is remotely programmable (col. 4 lines 45-59), (claim 23) further comprising at least one environmental sensor (abstract, col. 2 lines 45-56, col. 3 lines 63-67), (claim 24) wherein said environmental sensor is a precipitation

Art Unit: 2125

sensor (reference H, col. 3 lines 63-67), (claim 25) wherein said power source comprises at least one battery (col. 5 lines 19-33). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

12. Claims 1, 11, 12, 19, 20 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Addink et al (U.S. Pat 6,298,285). The claimed invention reads on Addink et al as follows:

Addink et al discloses (claim 1) a method for automatically operating an irrigation controller (abstract) comprising the steps of providing said controller with a preliminary irrigation schedule for a geographic location (col. 2 lines 55-57, 62-67, col. 3 lines 37-41), computing a water budget ratio (reference number 70) by comparing current local geo-environmental data with stored local geo-environmental data (col. 3 line 66 – col. 4 line 19), and modifying said preliminary irrigation schedule based upon said ratio (col. 4 lines 26-39), (claim 11) comprising the additional step of programming said controller to water an irrigation area according to said modified irrigation schedule only upon the occurrence of a predefined environmental event (col. 4 line 65 – col. 5 line 10), (claim 12) wherein said predefined environmental event comprises the lack of rainfall within a predefined period of time (col. 4 line 65 – col. 5 line 10, when it rains the controller will not irrigate, if there is no rain for a predetermined amount of time then the controller will irrigate as schedule), (claim 19) an apparatus for automatically adjusting irrigation watering schedules (figure 4), comprising an input device (reference numbers 231-234), a microprocessor (reference number 210), at least one

Art Unit: 2125

data storage device having instructions for computing a water budget ratio using current local geo-environmental data and stored local geo-environmental data (reference number 220, figure 1, col. 5 line 62 – col. 6 line 7), at least one temperature sensor (reference number 300, col. 3 lines 55-65, col. 4 lines 11-13), a power source (reference number 280), and at least one irrigation water output cutoff switch (reference number 270), (claim 20) wherein said input device is remotely programmable (col. 4 lines 36-39), (claim 23) further comprising at least one environmental sensor (reference number 290, 300, col. 3 lines 55-65, col. 4 lines 11-13), (claim 24) wherein said environmental sensor is a precipitation sensor (col. 5 lines 5-10), (claim 25) wherein said power source comprises at least one battery (col. 6 lines 1-7). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2, 3, 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins et al (U.S. Pat 5,097,861) in view of Mecham et al (U.S. Pat 6,314,340).

While Hopkins et al teaches most all of the instant invention as applied to claims 1 and 19 above and also teaches determining the approximate latitude for the geographic location from user input (entry of a zip code considered to read on this, col. 2 lines 15-63). Hopkins et al fails



Art Unit: 2125

to teach wherein said local geo-environmental data comprises a table of extraterrestrial radiation (RA) values arranged by date and by approximate latitude and wherein said predefined environmental event comprises a current temperature exceeding a predefined minimum irrigation temperature.

Mecham et al teaches an irrigation controller that uses local geo-environmental data comprises a table of extraterrestrial radiation (RA) values arranged by date and by approximate latitude (col. 2 line 11 – col. 3 line 23, col. 5 line 19 – col. 7 line 56, col. 13 line 50 – col. 14 line 61) and wherein said predefined environmental event comprises a current temperature exceeding a predefined minimum irrigation temperature (col. 9 line 8-23, col. 16 lines 17-32).

Hopkins et al and Mecham et al are analogous art because they are both related to irrigation control.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the table of extraterrestrial radiation of Mecham et al in the irrigation control system and method of Hopkins et al because Mecham et al teaches an advantage that temperature variations from zone to zone can be accounted for thus allowing for a more accurate irrigation calculation (col. 16 lines 33-63).

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Addink et al (U.S. Pat 6,298,285) in view of Pittsinger (U.S. Pat 4,921,001).

While Addink et al teaches most all of the instant invention as applied to claims 1 and 11 above Addink et al fails to teach wherein said predefined environmental event comprises a current temperature exceeding a predefined minimum irrigation temperature.

Art Unit: 2125

Pittsinger teaches wherein said predefined environmental event comprises a current temperature exceeding a predefined minimum irrigation temperature (col. 2 line 39-60, col. 3 line 53 – col. 5 line 5).

Addink et al and Pittsinger are analogous art because they are both related to controlling irrigation.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the rain and freeze sensors of Pittsinger in the irrigation controller of Addink et al because it is well known in the art that applying water to areas during a freeze condition could create unsafe conditions on streets and sidewalks and Pittsinger teaches an improved control system that utilizes freeze sensors and prevents damage from flooding, freezing and wasting water by preventing the freeze condition from disabling control circuits during a watering cycle (col. 2 lines 5-36).

***Allowable Subject Matter***

16. Claims 14-18 allowable over prior art. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

17. Claims 4 and 22 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

While Hopkins et al and Addink et al disclose a method for automatically operating an irrigation controller comprising the steps of providing said controller with a preliminary irrigation schedule for a geographic location, computing a water budget ratio by comparing current local geo-environmental data with stored local geo-environmental data, and modifying said preliminary irrigation schedule based upon said ratio and an apparatus for automatically adjusting irrigation watering schedules, comprising an input device, a microprocessor, at least one data storage device having instructions for computing a water budget ratio using current local geo-environmental data and stored local geo-environmental data, at least one temperature sensor, a power source, and at least one irrigation water output cutoff switch, and Mecham et al teaches an irrigation controller and method for automatically operating an irrigation controller comprising the steps of providing said controller with a preliminary irrigation schedule for a geographic location, computing a deviation factor by comparing current local geo-environmental data with stored local geo-environmental data, and modifying said preliminary irrigation schedule based upon said deviation factor and an apparatus for automatically adjusting irrigation watering schedules, comprising an input device, a microprocessor, at least one data storage device having instructions for computing a deviation factor using current local geo-environmental data and stored local geo-environmental data, at least one temperature sensor, a power source, and at least one irrigation water output cutoff switch,

none of these reference taken either alone or in combination with the prior art of record disclose a method for automatically operating an irrigation controller wherein the computation of the water budget ratio specifically includes:

“computing a standard temperature budget factor, computing a periodic temperature budget factor and dividing said periodic temperature budget factor by said standard temperature budget factor”,

in combination with the remaining elements and features of the claimed invention. It is for these reasons that the applicant’s invention defines over the prior art of record.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Regli (U.S. Pub 2004/0217189) – teaches an irrigation controller that controls based upon the time of year.

Hall (U.S. Pub 2003/0025400) – teaches an irrigation system that controls a device based upon geographic location identifier, sunrise and sunset calculations.

Watson (U.S. Pat 6,748,327) – teaches irrigation management using a geographic location identifier and historical information and measured solar radiation.

Sturman et al (U.S. Pat 5,960,813) – teaches a programmable irrigation controller that measures solar cell output to determine the time of day and adjusts watering durations based upon the length of daylight and also adjusts the watering duration based upon temperatures (col. 5 lines 5-31).

Woytowicz et al (U.S. Pat 5,444,611) – teaches an irrigation control that compensates for seasonal variance, monthly mean temperature and zip codes.

Bauerle et al (U.S. Pat 4,992,942) – teaches calculating solar radiation values to control irrigation.

Art Unit: 2125


Evelyn-Veere et al (U.S. Pat 4,176,395) – teaches an irrigation controller that utilizes a “water budgeting factor” to control the amount of water applied.

Miller et al (U.S. Pat 4,545,396) – teaches an irrigation controller that utilizes weighting factors and time of year.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L Rodriguez whose telephone number is (571) 272-3753. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Leo P Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Paul L Rodriguez  
Primary Examiner  
Art Unit 2125

PLR  
4/6/05